

Date: Sat, 5 Feb 94 04:30:19 PST  
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>  
Errors-To: Ham-Ant-Errors@UCSD.Edu  
Reply-To: Ham-Ant@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Ant Digest V94 #24  
To: Ham-Ant

Ham-Ant Digest Sat, 5 Feb 94 Volume 94 : Issue 24

## Today's Topics:

Effective Raditated Power? (2 msgs)  
Quad design software available? (2 msgs)  
Very Small Loop Antenna Modeling

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>

Send subscription requests to: <Ham-Ant-REQUEST@UCSD.EDU>

Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available (by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text herein consists of personal comments and does not represent the official policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 4 Feb 1994 18:09:19 GMT  
From: fluke!chuckb@beaver.cs.washington.edu  
Subject: Effective Raditated Power?  
To: ham-ant@ucsd.edu

In article <2ipbbbINNq2u@news.d.umn.edu> tstein@monolith.d.umn.edu (Tom Stein) writes:

>I have a quick question:

>

>Say I have 40 watts coming out of the back of my radio. My feedline is  
>1.4dB per 100 ft. I have 100 feet of feedline... Then my antenna, a 11 el.  
>beam has 11dB gain on it. Can someone tell me what the effective radiated  
>power of my system would be? And a formula would help....

>

>Tom Stein (NOUJK)

>

>(Please post only, I do not have e-mail access.)

>

>Thanks!

>

Let's assume the net gain of the system is 9 dB. You are going up 3 dB 3 times, doubling your power each time. I wouldn't worry about the .6 dB we have left out, because the antenna manufacturer's specs are probably at least +/- 1 dB.

This gives you an ERP of  $40 \times 2 \times 2 \times 2 = 320$  watts.

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Chuck Bowden / WB7R / chuckb@tc.fluke.com / (206) 356-6228  
Fluke Corporation / MS 232E / PO Box 9090 / Everett WA 98206-9090

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Date: 3 Feb 94 14:34:04 -0700  
From: library.ucla.edu!europa.eng.gtefsd.com!news.msfc.nasa.gov!  
sol.ctr.columbia.edu!hamblin.math.byu.edu!yvax.byu.edu!harrisr.byu.edu!  
user@network.ucsd.edu  
Subject: Effective Raditated Power?  
To: ham-ant@ucsd.edu

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> power of my system would be? And a formula would help....  
>

The formula for calculating dB Power is as follows:

$$\text{dB} = 10\log(\text{Radiated Power}/\text{Reference Power})$$

To calculate Radiated Power you would use the following formula:

$$\text{Radiated Power} = \text{Reference Power} * 10^{(\text{dB}/10)}$$

In your example your gain is 9.6 dB (ie 11-1.4)  
your Reference Power is 40 watts

$$\Rightarrow \text{Radiated Power} = 40 * 10^{(9.6/10)} = 40 * 9.1201 = 364.80 \text{ watts}$$

I'm currently investigating becoming an amateur radio operator. I know very little about this hobby but I do believe that my math is correct.

Regards,

Richard Harris  
HarrisR@yvax.byu.edu

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Date: 4 Feb 94 14:40:46 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Quad design software available?  
To: ham-ant@ucsd.edu

I am looking for software that runs under ms/dos that can be used to optimize the design parameters of a 20 meter Cubical Quad ant. The software I've seen around on BBS's such as Yagimax apply only to Yagi designs. Shareware is preferred which I can grab from an FTP/Anonymous site as I need something for a meeting soon, but any info is appreciated. Thanks ..  
John - VE4ZP- laportej@wl.aecl.ca

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Date: Fri, 4 Feb 1994 16:00:26 GMT  
From: agate!howland.reston.ans.net!vixen.cso.uiuc.edu!sdd.hp.com!hpscit.sc.hp.com!  
cupnews0.cup.hp.com!jholly@network.ucsd.edu  
Subject: Quad design software available?  
To: ham-ant@ucsd.edu

LAPORTEJ@wl.aecl.CA wrote:

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: site as I need something for a meeting soon, but any info is appreciated.  
: Thanks ..  
: John - VE4ZP- laportej@wl.aecl.ca

Since you want to spend time instead of money, mininec3 is available via ftp. It should be on just about any simtel mirror. If on the other hand you wish to part with some money I would suggest ELNEC by W7EL. It is mininec, but in a very nice to use package and runs on ms/dos, both with and without a coprocessor. Oh, forgot to mention the executables for mininec3 are intended to be used with a coproc...but of course you could recompile the source.

Good Luck,  
Jim Hollenback, WA6SDM  
jholly@cup.hp.com

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Date: Fri, 4 Feb 1994 14:25:43 GMT  
From: ftpbox!mothost!pts-nntp!mcc74!mulp\_ch@uunet.uu.net  
Subject: Very Small Loop Antenna Modeling  
To: ham-ant@ucsd.edu

I am designing a VHF loop antenna, that has very limited dimensions (< 1 x 0.3 inches). I would appreciate any comments on small loop antenna modeling software.

Thanks

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End of Ham-Ant Digest V94 #24  
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